AMENDMENTS TO THE CLAIMS

This is a complete and current listing of the claims, marked with status identifiers in parentheses. The following listing of claims will replace all prior versions and listings of claims in the application.

1. (Currently Amended) A method of erasure decoding of acknowledgement (ACK)/negative acknowledgement (NACK) feedback information, comprising:

detecting a state of received ACK/NACK feedback information for associated sent data based on at least one threshold derived using an objective function, the objective function including at least a first term representing an effect ~~affect~~ on data throughput for at least one possible type of error in detecting a state of the received ACK/NACK feedback information.

2. (Original) The method of claim 1, wherein the possible type of error is missed detection of a NACK.

3. (Original) The method of claim 2, wherein the first term represents a cost of an average number of total bits to be retransmitted if a NACK is missed in detection.

4. (Original) The method of claim 3, wherein the first term includes a weight variable representing a cost of a false detection of a NACK.

5. (Original) The method of claim 3, wherein the first term is defined as,

$$C_f N_f P_{missed=\det ection}$$

where C_f is the throughput cost of falsely detecting a Nack as an Ack, N_f is the number of bits of the missed detected packet, and $P_{missed=detection}$ is the probability of the missed detection.

6. (Currently Amended) The method of claim 1, wherein the objective function includes a second term representing an effect ~~affect~~ on data throughput if the state of the received ACK/NACK feedback information is correctly detected.

7. (Original) The method of claim 6, wherein the second term includes a weight variable representing a cost of correct detection of the state of the received ACK/NACK feedback information.

8. (Original) The method of claim 6, wherein the second term includes a throughput variable representing average data throughput.

9. (Original) The method of claim 8, wherein a value of the throughput variable is based on a probability that the ACK/NACK information is detected to represent an ACK.

10. (Original) The method of claim 8, wherein a value of the throughput variable is based on a probability that the ACK/NACK information is detected to represent a NACK.

11. (Original) The method of claim 8, wherein a value of the throughput variable is based on a probability that the ACK/NACK information is detected to represent an erasure.

12. (Original) The method of claim 6, wherein the second term is defined as,

$$-C_c D$$

where ($-C_c$) is the throughput cost of correctly detecting an Ack, and D is an average data throughput.

13. (Currently Amended) A method of erasure decoding of acknowledgement (ACK)/negative acknowledgement (NACK) feedback information, comprising:

detecting a state of received ACK/NACK feedback information for associated sent data using at least one threshold derived using an objective function including a first term and a second term, each representing ~~based on~~ an effect ~~affect~~ on data throughput for at least one possible type of error in detecting a state of the received ACK/NACK feedback information.

14. (Original) The method of claim 13, wherein the possible type of error is missed detection of a NACK.

15. (Currently Amended) The method of claim 14, wherein the effect ~~affect~~ on data throughput is expressed in terms of a cost of an average number of total bits to be retransmitted if a NACK is missed in detection.

16. (Currently Amended) The method of claim 1, wherein the threshold is further derived based on an effect ~~affect~~ on data throughput if the state of the received ACK/NACK feedback

information is correctly detected.

17. (Currently Amended) The method of claim 16, wherein the effect ~~affect~~ on data throughput if the state of the received ACK/NACK feedback information is correctly detected is expressed as a negative cost of the data throughput if the state of the received ACK/NACK feedback information is correctly detected.

18. (Currently Amended) A method of erasure decoding of acknowledgement (ACK)/negative acknowledgement (NACK) feedback information, comprising:

optimizing erasure thresholds for erasure decoding ACK/NACK ~~Ack/Nack~~ feedback information based on HARQ throughput performance using an objective function including at least one term relating to ~~accounting for~~ throughput cost of retransmissions from at least one higher layer protocol caused by missed detection of a NACK~~Nack~~.

19. (Currently Amended) A method of wireless communication comprising:

employing an objective function in determining at least one of an ACK, NACK and erasure, the objective function including at least one term accounting for at least an effect ~~affect~~ on data throughput in response to at least one error type.

20. (Original) The method of claim 19, wherein the error type is missed detection of a NACK.

21. (Currently Amended) The method of claim 19, wherein the objective function further

accounts for an effect ~~affect~~ on data throughput if the state of the received ACK/NACK feedback information is correctly detected.